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Our File Reference
825-A11H0002-D1-A1

08 February 2012

Major-General J.A.J. Parent
Commander
1 Canadian Air Division Headquarters
PO Box 17000 STN Forces
Winnipeg, MB
R3J 3Y5

Re: AVIATION SAFETY ADVISORY A11H0002-D1-A1
IFR separation in Class D airspace

Dear Major-General Parent,

On 20 August 2011, a First Air Boeing 737-210C combi aircraft (registration C-GNWN, serial number 21067) was being flown as a charter flight from Yellowknife, North West Territories, to Resolute Bay, Nunavut. At 1142 Central Daylight Time, during the approach to Runway 35T, First Air Flight 6560 (FAB6560) collided with a hill about 1 nautical mile east of the Resolute Bay Airport runway. The aircraft was destroyed by impact forces and an ensuing post-crash fire. Eight passengers and four crew members suffered fatal injuries. Three passengers suffered serious injuries and were rescued by Canadian military personnel who were in Resolute Bay as part of Operation Nanook 11. The Canadian Forces had set up a temporary Class D control zone in Resolute Bay to handle increased air traffic for this exercise. At 1139, a second aircraft operating under instrument flight rules (IFR) entered the Class D control zone without appropriate IFR separation. There was a loss of separation and had the First Air flight not hit the ground there could have been a risk of a mid-air collision. The investigation (A11H0002) is ongoing.

Within Class D airspace aircraft must be equipped with radios capable of communicating with the air traffic control agency, and must receive permission to enter the airspace. The control agency has the responsibility to separate IFR flights from each other, and provide traffic information to flights being operated under visual flight rules (VFR). IFR separation is normally provided by using radar information. The military radar installed for OP Nanook was not useable at the time of the accident as a flight check had not yet been performed to verify radar accuracy.

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The *Canadian Forces Supplement to the Nav Canada Manual of Operations* permits the application of non-radar IFR separation services to aircraft in airspace that is not served by radar. However, the military air traffic control (ATC) unit in Resolute Bay did not have procedures in place to direct controllers to apply non-radar separation standards in the Class D control zone. IFR separation standards were not established between FAB6560 and the second aircraft.

The military agency responsible for providing the ATC equipment and for the ATC operation is very experienced in deployed operations and routinely sets up precision approach radar (PAR) units in support of Operation Box Top, the far northern resupply of the Alert research station. As well, each year the unit sets up a complete airfield operation on the military base in Wainwright, Alberta. This operation in Resolute Bay was to be the first such complete airfield operation in a civil environment as part of the military's expeditionary air traffic management program (EATM). The planning for this operation did not include the contingency for the provision of IFR services in a non-radar environment. Although the implementation of this type of temporary control zone is rare in Canada, the consequences of not providing expected IFR services could be catastrophic.

The use of radar information and, in a non-radar environment, procedural methods, can be used to ensure IFR separation of aircraft. In the absence of these two defences, closing the Class D control zone would have alerted crews that ATC was not providing IFR separation, forcing them to revert to the normal procedures for uncontrolled airspace.

Because military ATC continued to operate the Class D control zone without the ability to provide IFR separation in instrument meteorological conditions, there was an increased risk of mid-air collision. Unless future EATM operations include the provision for all the air traffic services required for the class of airspace, this risk will persist. Therefore, the Canadian Forces may wish to amend their EATM planning process.

Yours sincerely,



Mark Clitsome
Director, Air Investigations Branch

cc: Martin Eley, Director General Civil Aviation, Transport Canada
John David, Director of Safety, NAV CANADA
Colonel Yvan Choiniere, Director of Flight Safety, Royal Canadian Air Force

BACKGROUND INFORMATION

Occurrence No. :	A11H0002
Safety Communication No. :	A11H0002-D1-A1
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